Blodgett (A. N.)

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WITH REMARKS.

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A CASE OF SUBSCAPULAR ABSCESS,

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The patient, Miss M., is a lady about 45 years of age, of Nova Scotian parentage, and unmarried. She has always been well until the commencement of the conditions to be described in this paper, and has a large frame, erect figure, and robust musculature, and weighs about 180 pounds. Previous to the time at which her present infirmity commenced she never hesitated to perform any kind of manual labour, and it was her boast that she could handle a barrel of flour as easily and as skilfully as a man would do it. Menstruation has always been regular, never more than ordinarily painful, and all the organic functions seem to be in a condition of healthy activity. The menopause has not yet occurred.

Twelve years ago, while moving some heavy object, Miss M. felt a sudden shock, like that of a strain, or a sprain, indefinitely located somewhere in the left shoulder, which was immediately followed by a continuous pain situated beneath the shoulder-blade and extending in a diffused way into the left side, where its boundaries were not distinctly marked. The patient considered the accident as of trifling importance, and took little notice and less care of the injured part. The shoulder, however, soon became very lame, and the left arm was at the same time nearly incapacitated on account of pain, now chiefly confined to a region near the spine, on a level with the axilla, on the left side of the median line, but also extending outwards towards the left shoulder, as well as downwards and forwards around the left side of the chest. All these symptoms became gradually more pronounced until the patient was wholly incapacitated for work on account principally of the increasing distress, particularly in the left side, later extending also to the abdomen, where there was now a great degree of tenderness on pressure with diffused swelling and considerable œdema.

The foregoing symptoms continued in about the same degree of severity for several weeks, when suddenly without known cause the patient was prostrated by an attack of intense pain located in the upper part of the abdomen on the left side over the region of the spleen, and near the margin of the ribs. Coincident with this were a considerable elevation of the body temperature, thirst, coated tongue, etc., all of which continued for

more than a week, when the recent more acute symptoms gradually abated to a considerable extent, leaving, however, a distinct line of tenderness from the border of the left scapula to the left hypochondriac region, where there was still a moderate amount of pain at all times, which was at once increased to great distress by slight pressure over the part.

With the subsidence of the febrile symptoms, natural and frequent motions of the bowels recurred. The evacuations consisted to a large proportion of a grayish fluid, which emitted a very offensive odour, and which in the words of the patient "resembled matter." The amount of actual fecal content in the dejections was apparently normal, the liquid portion being evidently an unnatural addition to the ordinary contents of the large intestine. The dejections were at certain times more frequent and copious than at others, but, unlike the stools of an ordinary diarrhœa, they did not appear to exhaust the strength of the patient, who, on the contrary, seemed to be slowly improving during their continuance.

After a period of some months, the distress in the shoulder and side abated to a considerable extent, and the amount of purulent fluid in the dejections gradually diminished. The pain, however, never wholly subsided, and any unusual exertion since that time has invariably been followed by a partial return of all the distressing symptoms before described, excepting the peculiar discharges from the bowels, which have recurred at irregular periods, after a more than usually severe relapse since the time of their final disappearance at the close of the acute attack above mentioned. These relapses have occurred at varying intervals and from different causes; their severity is not always the same, but the patient is generally obliged to remain in bed until they subside, when she is soon able to resume her ordinary mode of life, and perform light duties as a housekeeper.

Status præsens.—Miss M., while visiting near Boston, was again prostrated by a mild recurrence of pain and tenderness in the shoulder and side, and was made the subject of careful examination and study. The following is an abstract from my notes, taken at this time. There was a localized point of tenderness on the anterior abdominal wall, more evident on deep pressure, situated near the border of the ribs, and one inch external to the left mammary line. At this point a track of indurated tissue was easily detected by palpation, which followed the interspace between the seventh and eighth ribs around the chest to the margin of the scapula, beneath the border of which it disappeared and was lost. This line of hardness was tender on pressure and easily became the seat of acute distress on any unusual exertion or imprudent exposure. In a state of quiet the parts were not sensitive, and respiration was not impeded or embarrassed, unless considerable effort was made, when a pain was felt within an indistinct area located beneath the left scapula and extending to the axilla. The appetite was variable, the digestion capricious, and the motions from the bowels, as a rule, sufficiently frequent though quite irregular. Recurrent attacks of intense pain with considerable swelling in the upper left region of the abdomen, accompanied with tenderness over the entire abdomen, have been frequent since the severe illness described in an earlier part of this paper, but these exacerbations have uniformly subsided after a period of a few days, from the effect of rest in bed, emollient applications, strict diet, etc., and have generally been followed by frequent and copious discharges from the bowels, sometimes containing the peculiar grayish fluid before mentioned. These liquid discharges

gradually diminished in frequency, and lost their fluid character, until after some days the ordinary conditions of the normal alvine evacuations would become again established. There has never been a permanent effusion in the abdomen; there are no physical signs or rational symptoms of any affection of the lungs; there is no history of pleurisy; and there is no effusion of fluid in the pleural cavity; the limbs have never swollen, and the feet have never become œdematous.

The shoulder and arm can be freely moved in any normal direction without occasioning pain, although any great amount of strain, as in lifting a heavy weight, at once causes the old distress. The muscles about the scapula are somewhat contracted, and have a boggy or doughy feeling. Pressure on the scapula produces a moderate degree of pain located very deeply, and apparently beneath this bone. The measurement about the chest is somewhat larger upon the left side. The movement of the chest in respiration is also constrained upon this side, and the patient avoids taking a deep breath on account of the pain in the shoulder which is caused thereby. The organs within the chest betray no signs of disease.

Diagnosis.—Primary subacute inflammation of the connective tissue beneath the scapula. Suppuration and the formation of an abscess, burrowing of pus beneath the scapula to the wall of the thorax, with the formation of a purulent canal along the surface of the external intercostal muscle beneath the seventh rib to the margin of the ribs. Localized adhesive peritonitis, perforation of parietal and visceral peritoneum, and of the wall of the transverse colon, and evacuation of the products of inflammation by the rectum.

The peculiar anatomical relations existing around and beneath the scapula give to an acute inflammation, and to the results of such an inflammation in this region a degree of importance to which they would otherwise be in no way entitled. The broad flattened costal surface of the shoulder-blade offers an unyielding barrier to the products of inflammation, the swelling, effusion, the slough of tissue, or the subsequent suppuration. The margins of the scapula are occupied by the insertion of numerous powerful muscles, or are fringed with dense and tense fascia, which, though allowing a moderate displacement by pressure from within, yet are grave obstructions to the relief of a deep-seated abscess by the process of natural evacuation. It will be remembered that the fascia of the neck plays a similar part in the history of deep carbuncle of this region; and to it may probably be ascribed in great measure the grave character and frequently the fatal issue in this affection. Thus we see that an acute inflammation in the tissues beneath the scapula is accompanied by conditions which can be likened only to those confined to, and found in three other parts of the body, viz., to the interior of the skull; to the sheaths of the tendons, particularly those of the digital flexors; and to the roots of the teeth within the alveolar process.

The course of the disease in its progress toward spontaneous cure, in the patient whose history forms the foundation of this article, illustrates the truth of the comparison just presented in an indisputable manner. I call it a "spontaneous cure," because I fail to find anything in the treatment employed which could directly, or even remotely, be supposed to have actively influenced the progress or direction of the disease; and I am not aware that previous to the time when I saw the patient a positive diagnosis had ever been pronounced; certainly the existence of a suppurating abscess beneath the scapula had never been suggested. The course of the disease was strange and yet simple. Nature always endeavours to remove offending substances from the system, and usually does this by means of inflammatory processes of a greater or less degree of severity. The path of exit chosen is always in the direction of least resistance, and, when the surrounding conditions will permit, in the path of shortest possible distance. In suppuration within the cranial cavity the immediate spontaneous evacuation of the causes and products of inflammation is impossible on account of the dense character of the inclosing tissues. In suppuration within the sheaths of the tendons of the fingers and palm this is also true, and the products of inflammation pursue a course in the direction of least resistance, but not of shortest distance. We therefore find the inflammatory process in the brain encroaching to a greater extent upon the surrounding cerebral substance, and in the case of the tendons following these structures in their sheaths to the more yielding regions of the forearm.

In suppuration beneath the scapula we observe an exemplification of the same thing, in the fact that the path of evacuation of the abscess was the direction of least resistance, viz., the peri-costal connective tissue beneath the investing thoracic fascia, the channel of exit lying upon the body of the external intercostal muscle and following its expansion downwards, forwards, and inwards to that point where it terminates with the obliteration of the intercostal space. Here the path of discharge was for the time obstructed. The suppuration burrowed a canal outside the border of the ribs, outside the attachments of the diaphraghm, but still confined beneath the deep thoraco-abdominal fascia; it then invaded the domain of the abdomen. No dense muscular structures or other resistant tissue now interposed any formidable barrier to its progress, and it soon approached the parietal layer of the peritoneum. At this time, after weeks of only moderate suffering, there suddenly occurred a most alarming complication in the shape of high fever, great prostration, loss of appetite, intense pain in the abdomen, which was everywhere tender, but most acutely painful in the region of the left hypochondrium. This grave condition existed for a time and then gradually abated, and was immediately followed by large and frequent evacuations from the bowels, consisting always in part, and at times wholly, of what the patient called "matter,"

which I think we may reasonably understand to have been the products of purulent inflammation. Coincident with this was a considerable amelioration of all the symptoms about the shoulder, which continued to steadily improve from that time.

After an interval of many months the pain and tenderness about the scapula had quite disappeared, the functions of the shoulder were to a great extent restored; but there remained a track of redness around the body, following the seventh intercostal space to the margin of the ribs, where there was a localized spot which continued permanently sensitive and often became the seat of great pain, accompanied by fever and grave constitutional disturbance. From time to time the alvine discharges contained a certain amount of purulent matter, but this gradually diminished, until at length it was seen only at long intervals, and then after an exacerbation of the abdominal symptoms before mentioned.

Treatment.—There would seem to be but little to be accomplished in the way of direct treatment in a condition such as is here described. The principal measures would probably be directed by the special indications in each individual case, and would change with the varying symptoms which might and probably would arise in the condition of the patient.

For Miss M. a vigorous course of tonics was advised, consisting of extract of malt, iron, and the exhibition of a moderate amount of potassic iodide. Counter-irritants were ordered over the path of tenderness around the thorax, extending to the extreme limit of redness and swelling. The redness and tenderness of the chest-wall entirely disappeared, the sensitiveness in the abdomen subsided, the general strength and vigour of the patient greatly increased, she improved in weight, and became perceptibly fuller in face and figure. This has since continued (a period of two years), and there have been no signs of any recurrence of the trouble in the region of the scapula, or of any of its sequelæ.

I find the study of the foregoing case interesting from many points of view; among others the following: 1. The occurrence of an acute inflammation in a confined locality, to which it is restrained by an overlying surface of bone which cannot yield to pressure, without causing necrosis, exfoliation, or perforation of the bone. 2. The absence of injury to the vertebræ, which lie in a dangerous proximity to the seat of disease. 3. Absence of caries or necrosis of the ribs, which formed one wall of the suppurating cavity. 4. And most surprising of all, the evacuation of the purulent fluid through a false channel, of comparatively very great length, by means of localized peritonitis and adhesive inflammation of the abdominal viscera, and perforation of two layers of peritoneum, and the wall of the intestine, without the occurrence of fatal peritonitis, or of septicæmia, or any other serious complication; and finally the existence of a tense abscess in a confined locality upon the chest-wall, with the formation of a long sinus in the space between adjacent ribs, without a perforation of the parietal pleura, and the occurrence of a traumatic

empyæma; or adhesive inflammation of the opposed pleural surfaces and perforation into the pulmonary structure, with rupture into a bloodvessel or into a bronchus.

In the limited time at my disposal, I have made some attempt to discover any reference to the occurrence of suppuration beneath the scapula in works on surgery, but thus far I have found no allusion of any kind to the subject.

The only literature devoted to this topic of which I have any knowledge consists of an admirable paper[1] by F. W. Hooper, M.D., in which a detailed account of two cases is given, the clinical history of the first case, which was under the personal observation of Dr. Hooper, being presented at length. The symptoms, however, were somewhat confusing in this case, an incision into the supposed abscess giving exit to air and liquid, thus showing that the cavity communicated directly and continuously with the lung. The case had already passed through a most important phase in its history, before medical advice was thought to be necessary, and speedily resulted fatally. In spite of most earnest effort, no autopsy could be obtained.

The second case of Dr. Hooper occurred in a child, which was subsequently carried to the Massachusetts General Hospital, where an incision gave exit to a large amount of pus. Recovery was rapid and perfect. This case would seem to belong clearly to this class of surgical diseases.

I am indebted to the kindness and courtesy of Dr. Robert Fletcher, of the Surgeon General's Office, at Washington, for reference to three additional cases, as follows:—

The third case is reported by Dr. Kwasnicki, of Warsaw, in 1867; the abscess was opened and the patient promptly recovered.

The fourth case occurred in the practice of Dr. Llanos (Barcel., 1878); and the fifth is reported by Vernois (*Bul. Soc. Anat.*, Paris).

I have not thus far been able to consult the original articles referring to the last three cases, and can thus only present a very unsatisfactory outline of the treatment of this disease, where it has been observed, or the results attained. As stated above, one of the cases reported by Dr. Hooper died, and one recovered; one reported by Kwasnicki recovered; and in two the result is not given in the references at my disposal.

The case reported in this paper is, therefore, the sixth thus far published, and the third in which I am able to find the record of recovery by operation or otherwise. The first case reported in Dr. Hooper's paper was accompanied by such a variety of unusual and serious complications that in the absence of an autopsy, some doubt may exist as to the exact nature of the morbid process, so that, if we exclude this case, we have five reported cases of subscapular abscess, with a termination in three by

[1] Boston Medical and Surgical Journal, vol. civ. p. 485.

recovery, while in two cases the result is not accessible. Cases of so-called "peripleuritic abscess" have been reported by Wunderlich in 1861, by Billroth and Bartels in 1874, and by Riegel in 1876, but these cannot properly be included in the present enumeration, as the disease treated of in this paper is distinctly an extra-costal affection, and has absolutely nothing to do with the pleura, unless by secondary and accidental processes, which are quite independent of the primary lesion.

The peculiar relations of the region involved, and the variability of the course and direction in which the disease may tend, together with the liability to certain unexpected complications, some of which have been here briefly alluded to, would seem a sufficient reason for desiring to call further attention to this unusual seat of traumatic violence, and to some of the particular complications which may attend inflammation, and the process of suppuration in this locality.

When it is possible to establish the diagnosis of subscapular abscess at an early period in the disease, the surgeon would certainly feel that operative interference for the purpose of affording an outlet for the products of inflammation would be not only justifiable, but an imperative duty. The diagnosis may not be easy, and in the case here narrated the true nature of the disease was not recognized by the attending surgeon; but when the presence of pus beneath the shoulder-blade is once determined, no time should be lost in providing a path for its evacuation. This may be done by an incision at either of the borders of the scapula, but preferably on the axillary margin, as the comfort of the patient would be much less interfered with than if any other portion of the scapular boundary were selected for operation. Should particular reasons recommend such a course, there can be no grave objection to cutting down upon the bone at its centre, and trephining its blade, thus reaching a part of its costal surface not easily accessible from either margin. It is, perhaps, unnecessary to allude to the employment of antiseptic precautions, and the provision for free drainage in any operation extending beneath the scapula. In few surgical procedures about the trunk are these more clearly indicated than here. There could be no reasonable objection to a counter opening, and thorough drainage and irrigation of the cavity should this seem necessary. Should the abscess open into the pleural cavity it would probably require in addition the same treatment as an ordinary empyæma, with this advantage, however, that the prognosis might be more favourable than in many cases of original purulent effusion into the chest, as the lung would probably not be involved. Should the abscess by its approach to the pleural cavity cause an adhesive inflammation of the opposed serous surfaces, the abscess might not open the pleural cavity at all, but might advance into the pulmonary structure and eventually open into a bronchus when the purulent fluid might be evacuated by expectoration, or its amount might be so great as to cause immediate death by suffocation. Should the purulent track

communicate with any of the pulmonary blood channels it would expose the patient to the possible dangers of sudden thrombosis or embolism, and to the serious consequences of an actual infection of the blood by the products of disintegrative pathological processes. For these various accidents no *general* mode of treatment can be advocated, but the particular circumstances attending each case would indicate a varying treatment, and probably in a large proportion of such cases no mode of treatment would offer any advantage in the way of materially benefiting the patient or prolonging life.

April 15, 1884. I have this day learned from friends of the patient whose history is the foundation of the foregoing paper, that quite recently, while in a distant part of the country, she has had another severe attack much like that detailed above, in which her left shoulder and side were the seat of swelling, tenderness, and pain, and that this was followed by "inflammation of the bowels," during which her condition became so grave that her life was despaired of by two attending physicians, and amelioration only occurred upon copious evacuations of "matter" from the bowels. She is said to be at this time slowly convalescing, but is very much reduced by the severity of a process which has involved a great part of the trunk and interfered with the functions of the abdominal viscera.

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